2017

Spag: Sparganotis Fruitworm

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SPAG

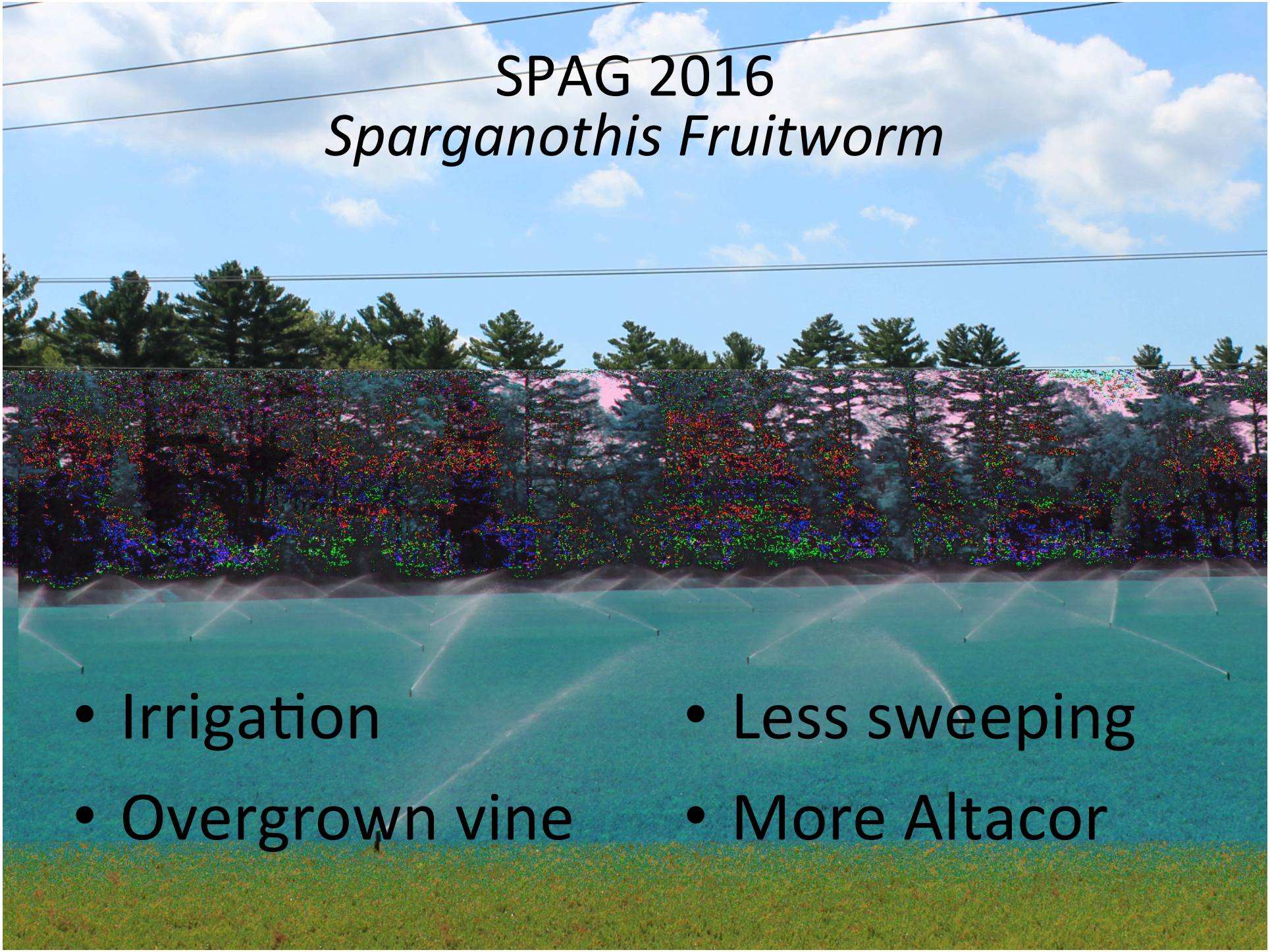
Sparganothis Fruitworm

Marty Sylvia
UMass Cranberry Station

UMass Cranberry Management Update
1/18/17 Rosebrook

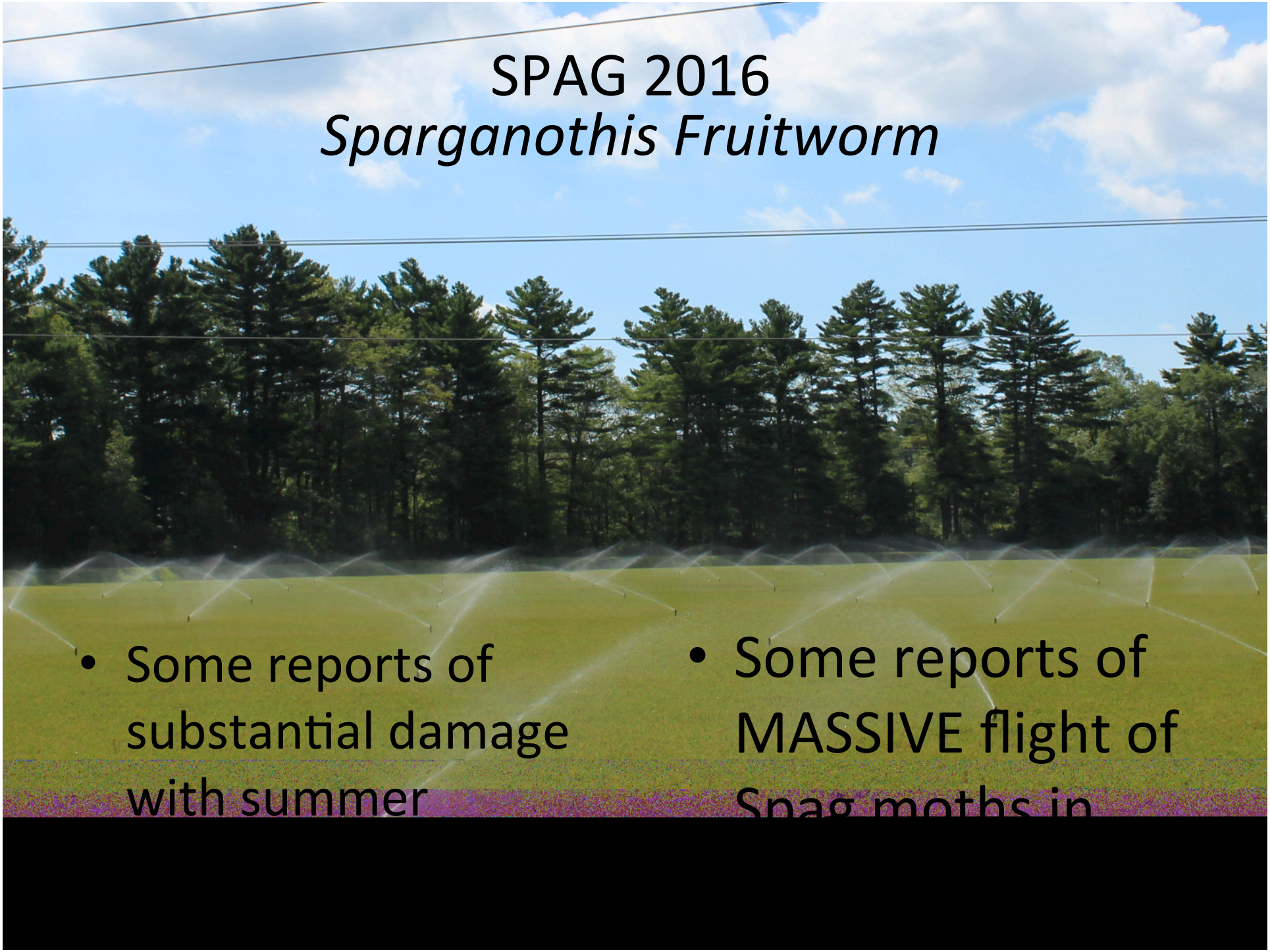
Sparganothis fruitworm

Comes in many different styles—!the wriggler



SPAG 2016
Sparganothis Fruitworm

- Irrigation
- Overgrown vine
- Less sweeping
- More Altacor



SPAG 2016
Sparganothis Fruitworm

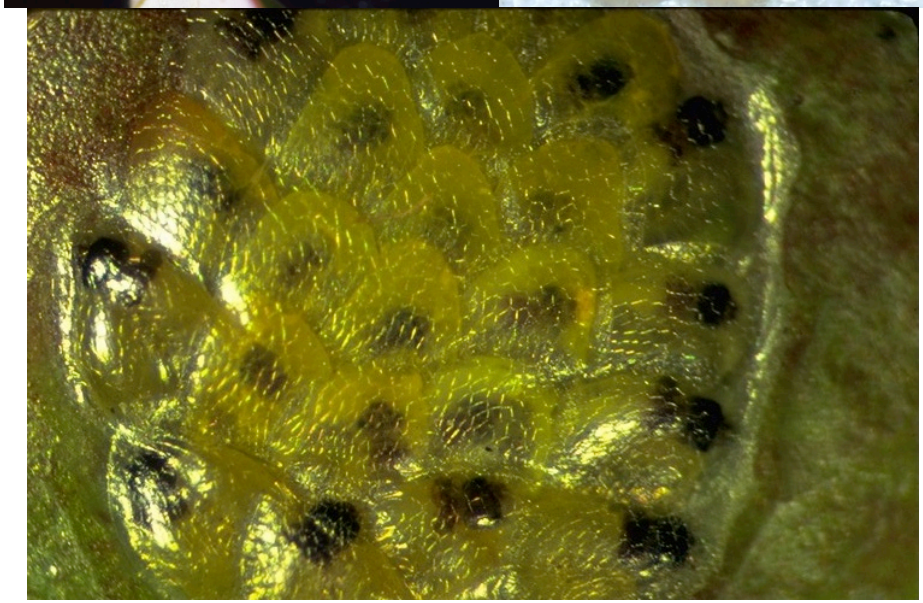
- Some reports of substantial damage with summer
- Some reports of MASSIVE flight of Spag moths in

- Review lifecycle
- Review moth flight
- Review available pesticides

Sparganothis fruitworm

- 2 generations
  - Early-season foliage feeder
  - Appears again at fruit set

- Lays egg in masses
  - Take nearly 2 weeks to hatch
  - Leads to localized infestation



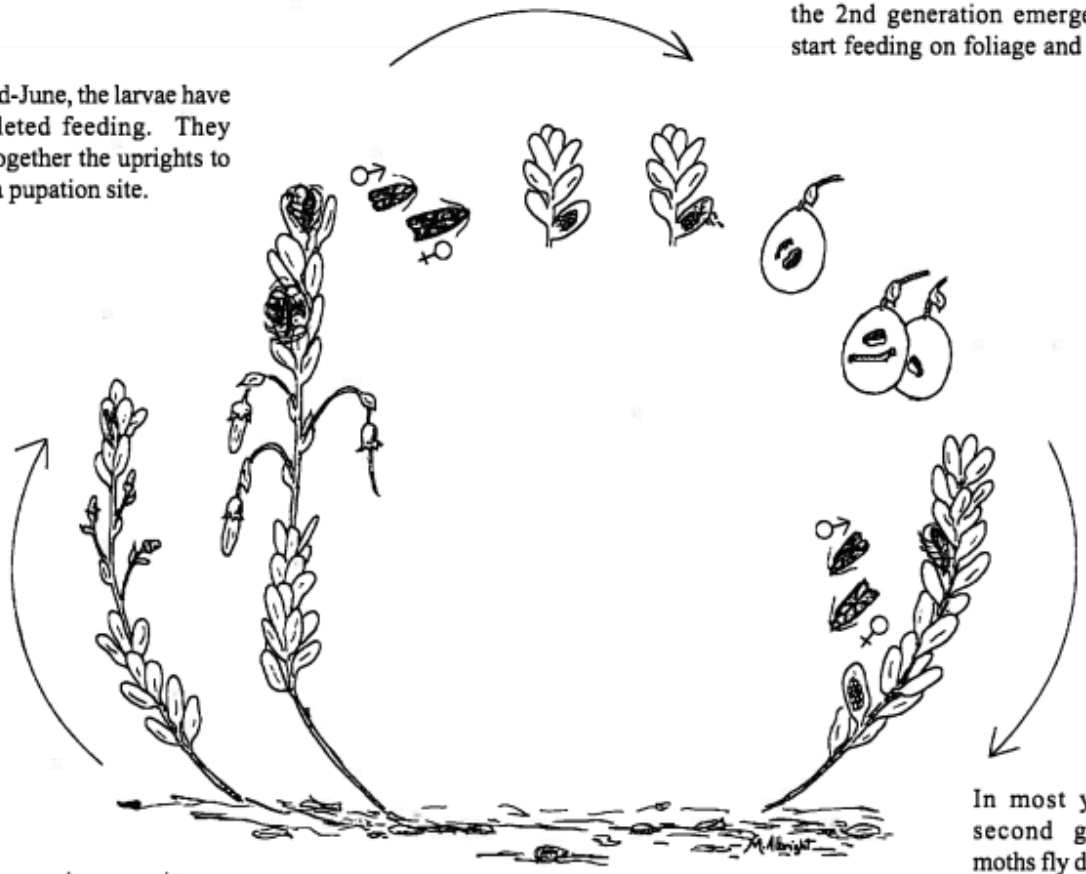
SPRING

The moths emerge and mate in late June and early July. Females deposit egg masses on the foliage and perhaps, on developing fruit.

SUMMER

After 10-14 days, the tiny larvae of the 2nd generation emerge and start feeding on foliage and fruit.

By mid-June, the larvae have completed feeding. They web together the uprights to form a pupation site.



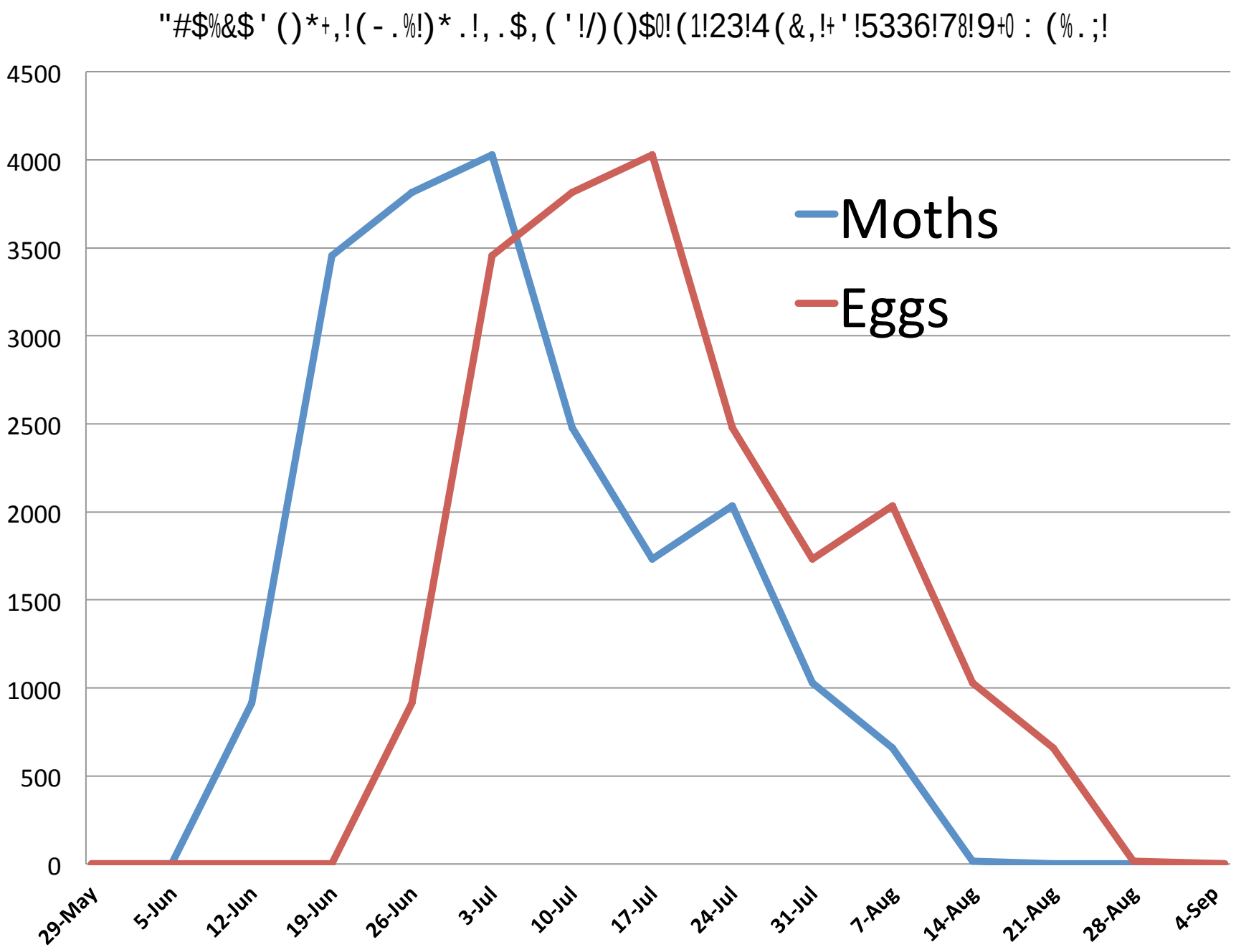
In most years, the second generation moths fly during early harvest in September and lay eggs.

In early spring, as it warms up, the larvae become active and move onto the foliage to feed.

The eggs hatch in the fall and the tiny first instar larvae spend the winter either in the trash layer or webbed into the uprights.

WINTER

FALL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SPRING

mid-June

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SUMMER

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July

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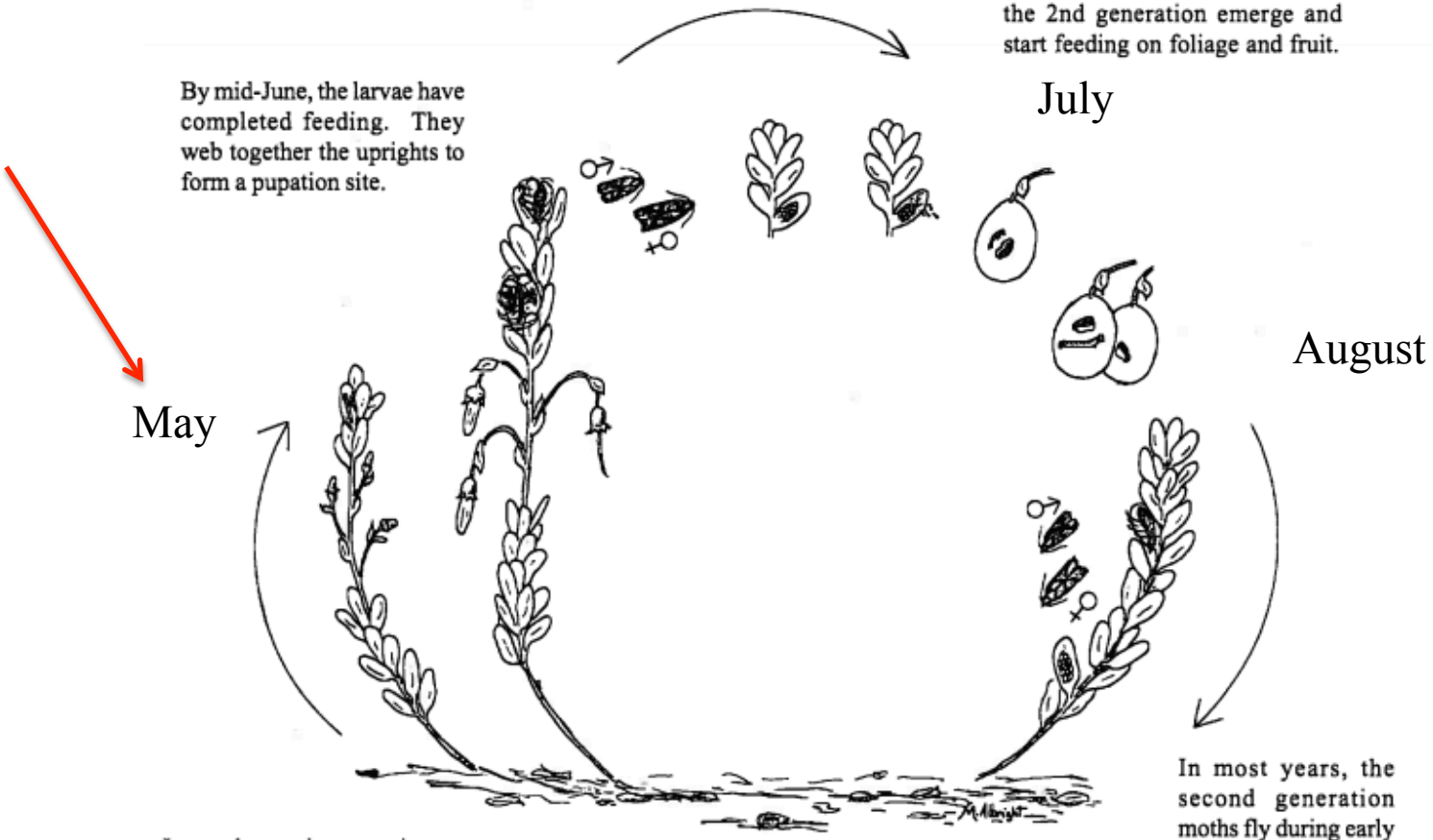

August

May

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WINTER

FALL

Sparganothis resistance to organophosphates

- Began ca. 20 years ago in Carver area
- Spread throughout MA cranberry industry
- Diazinon, Lorsban, Orthene not effective on most populations
- Delegate and Intrepid (or Confirm) best choices for spring management
- Med-large larvae—Delegate

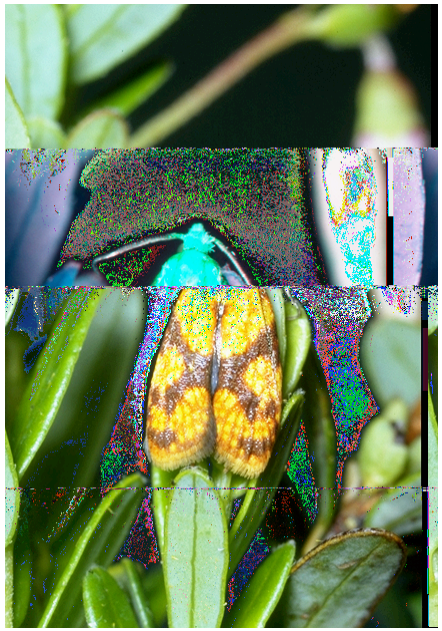
My complaints

- Intrepid not being used
  - And if you do use it, use it in May not June
- You say “Delegate doesn’t work”
  - Spray goes on when larvae are big − much harder to kill
  - When larvae are big, they have nice condo’s
  - When they have condoe’s they are protected

Sparganothis spotting

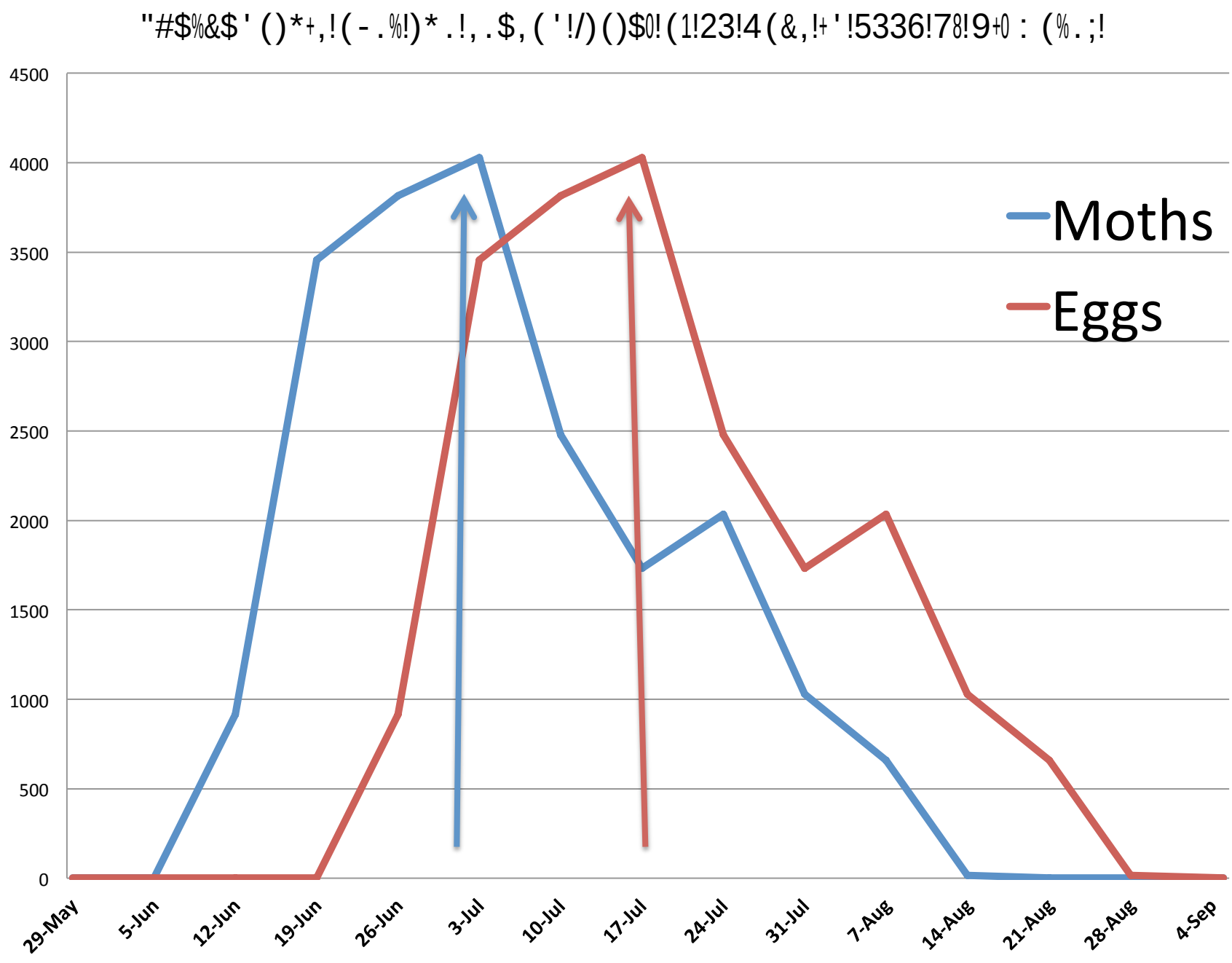
- See what larva looks like by looking at easily found retreats in patches of loosestrife on bed
- Look for larvae in May
- Watch out—will wriggle away

- Review lifecycle
- Review moth flight
- Review available pesticides



SFW

Set out pheromone traps in June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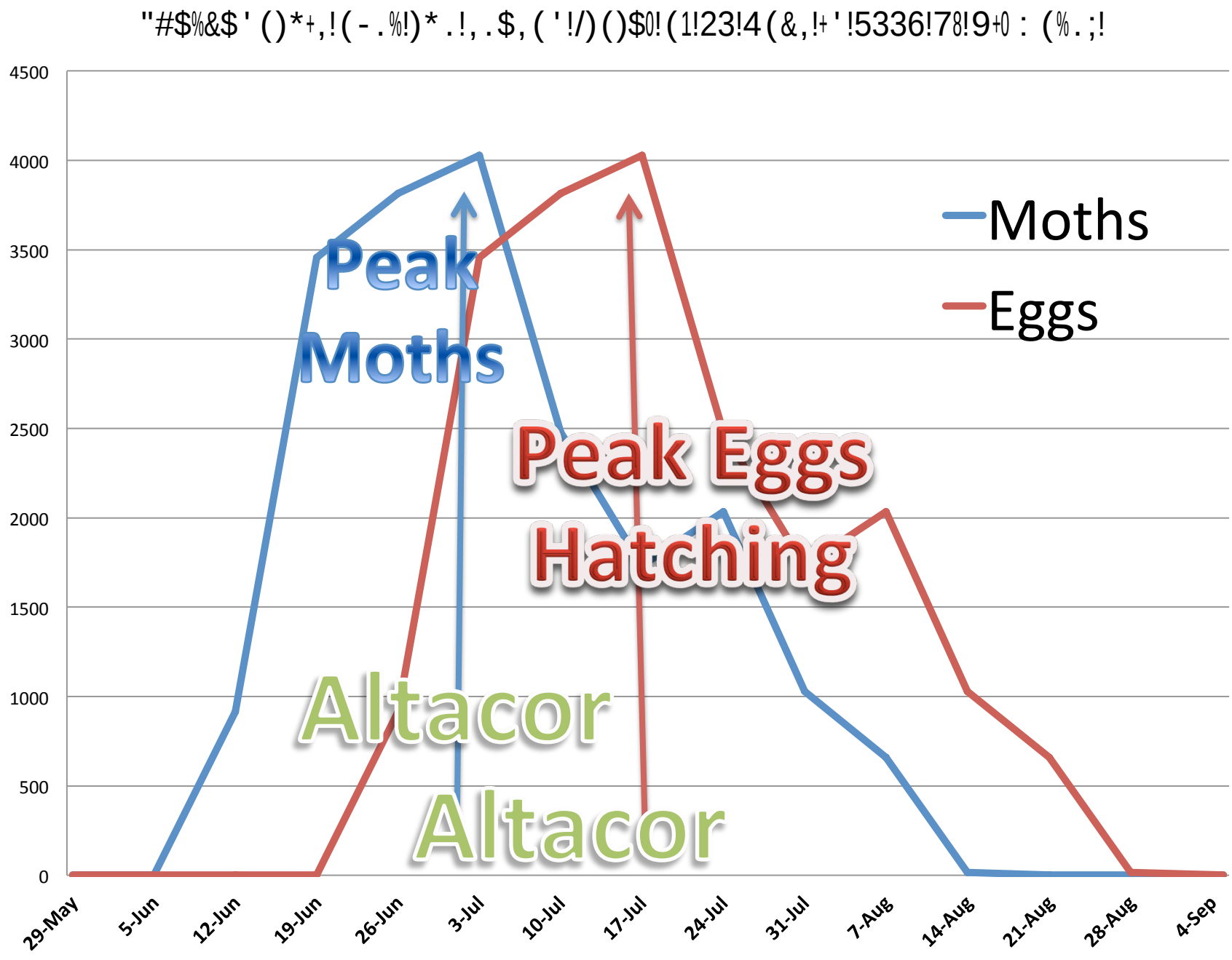
Sparganothis management
80 bog sites monitored (10 years ago)

- <00 sites had some Sparganothis flight

- 32 of 80 had peak flight of 50-100 moths
- 40 of 80 had peak flight of 100-200 moths
- 8 of 80 had peak flight of 200 moths

- =.$> moth flight was 1st or 2nd week of July
  - But varied from bog to bog from June 19 to July 24

- Revel Gilmore, IPM Scouting, all growing areas in SE MA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Altacor
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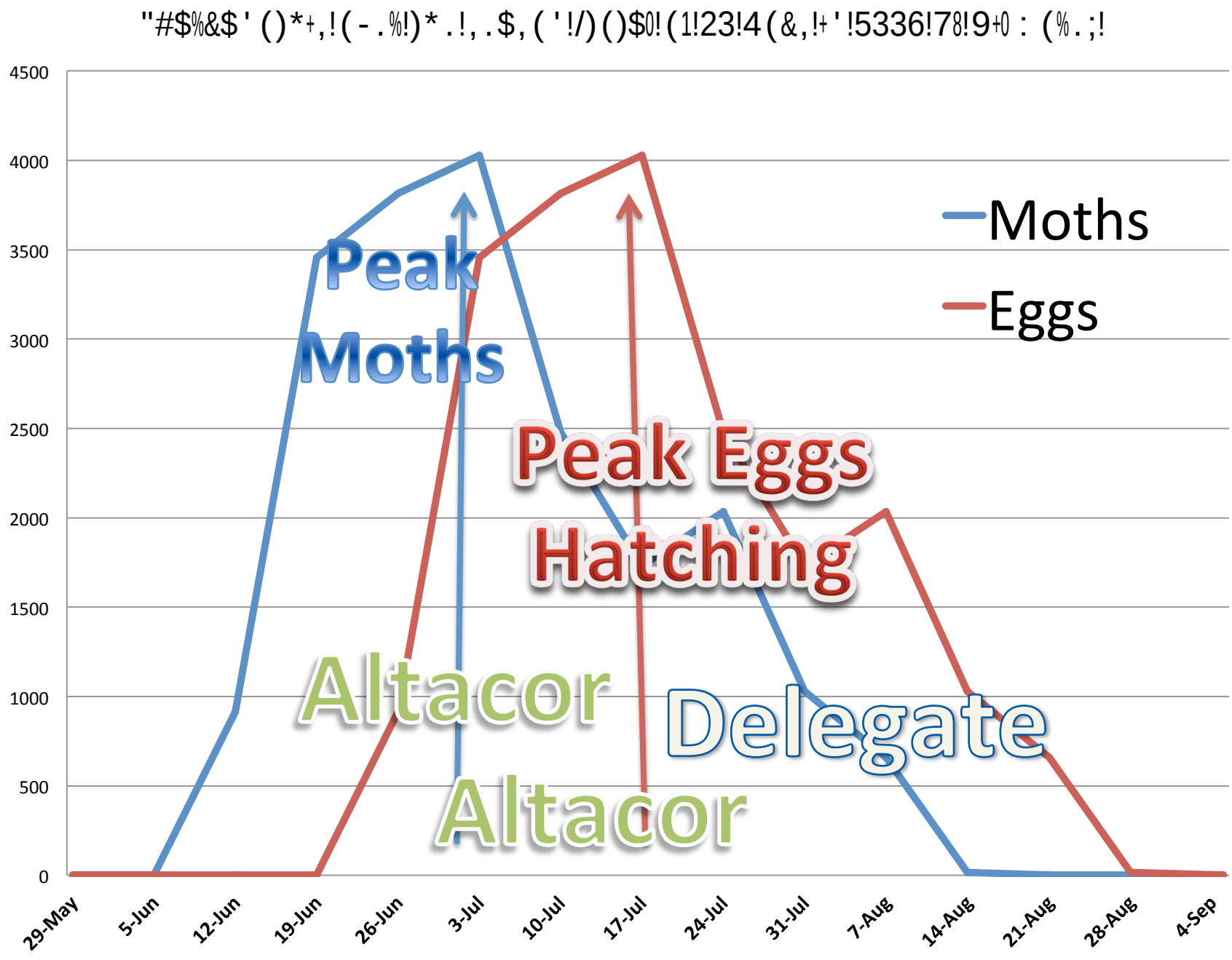
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Delegate
Altacor

- Review lifecycle
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Sparganothis Spray Options

- Altacor
- Assail
- Avaunt
- Intrepid
- Confirm
- Delegate
- Diazinon
- Imidan
- Lorsban
- Orthene
- Sevin

- Best management approach is to focus on the spring

- Summer populations harder to monitor and manage

Sparganothis Spray Options

- Altacor
  - 2 shots, only eggs and tiny larvae
- Assail
- Avaunt
  - Likely only hit 50% or less

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- ~~Diazinon~~
- ~~Imidan~~
- ~~Lorsban~~
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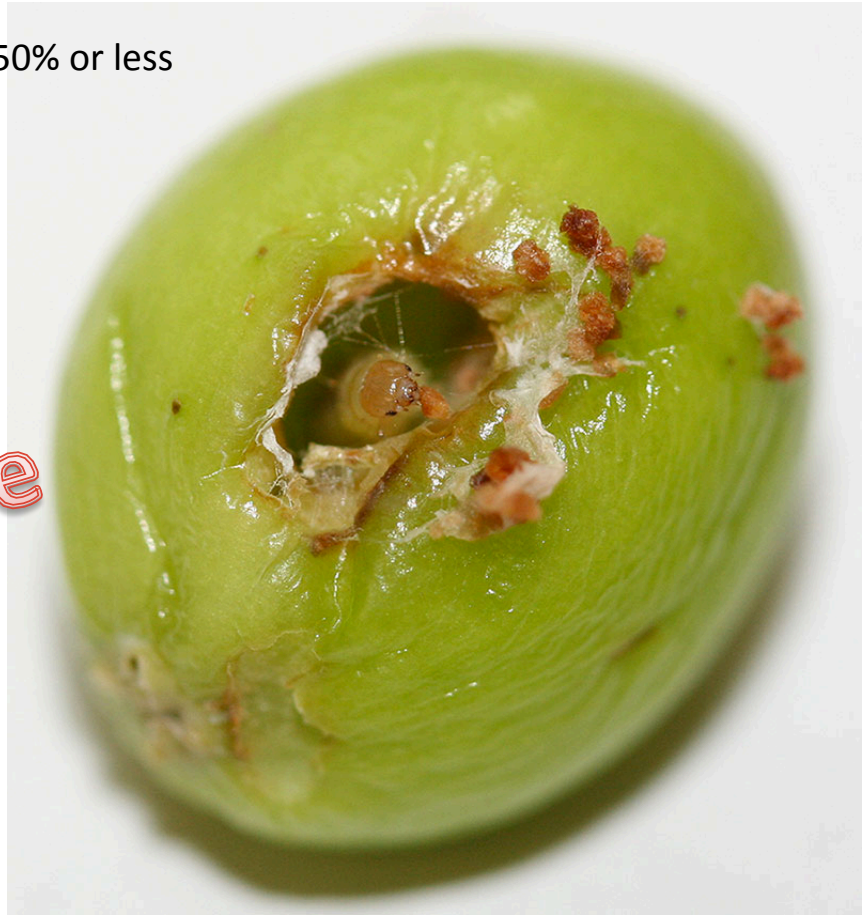
- ~~Sevin~~

Resistance



- Best management approach is to focus on the spring

- Summer populations harder to monitor and manage

Sparganothis Spray Options

- Altacor
  - 2 shots, target eggs and tiny larvae only
- Assail
- Avaunt
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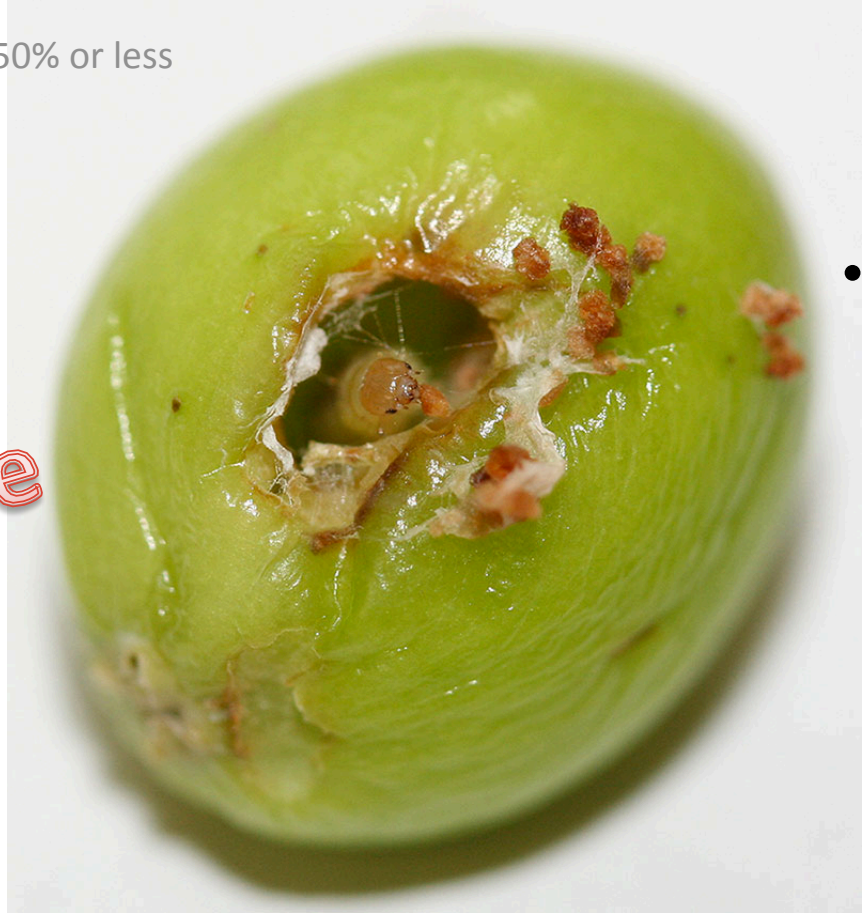
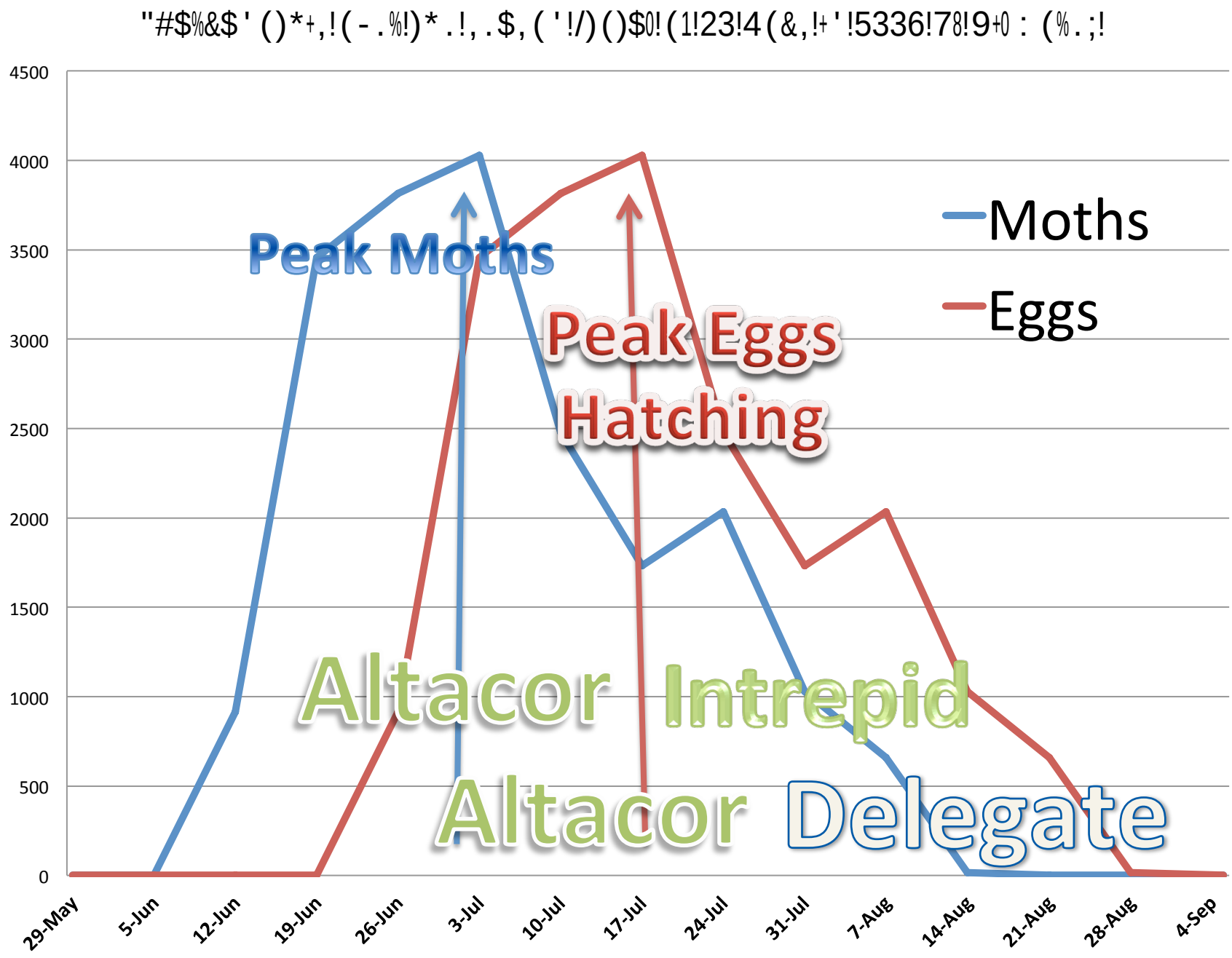
Resistance



- Intrepid and Confirm will work best on small larvae

- Delegate is the only thing that will have any hope of working on big larvae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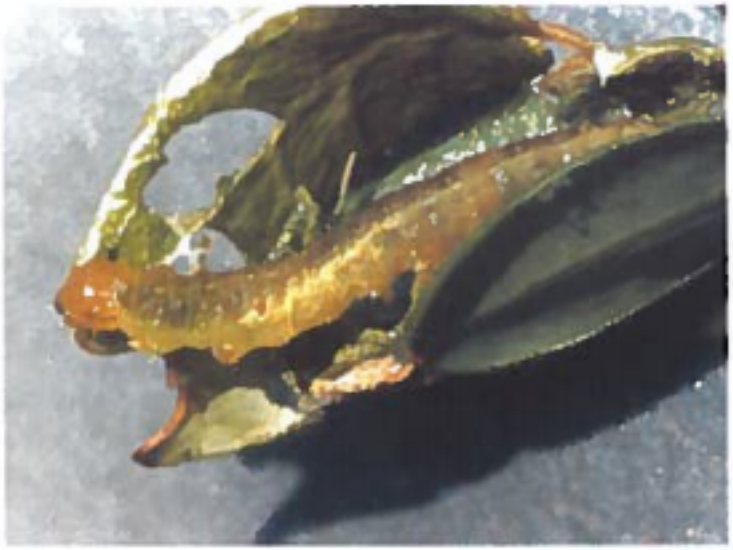
Altacor Intrepid
Altacor Delegate

Spag vs YHF

- Many bogs not flooded at all for winter



Yellowheaded fireworm larva. (Photo: W. Z. Fort)

Sparganothis sweep recommendations

- Believe you will find a larva -- keep looking
- 1 sweep set/acre (reduce for larger beds)
- Larger larvae are readily picked up in net
  - numbers reflect infestation
  - But too late to manage well with Intrepid
- Threshold is very low
  - average 1-2 larvae/sweep set
  - Low efficiency of sweeping
- OR JUST SPRAY MAY 15 with Intrepid

Hybrids – larger fruited cultivars

- Spag develops faster on larger fruited cultivars
- Spag is more protected from pesticides and parasites in summer in large fruited cultivars
- Hybrids - now commonly see internal feeding and even pupate inside fruit